

Forestry legislation in Sweden

Jan-Erik Nylund

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The Swedish University of Agricultural Sciences
Department of Forest Products
Institutionen för skogens produkter

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Abstract

The paper is a review of Swedish forest policy and legislation over four centuries, using mainly Swedish language literature, including Government and Forest Authority print. - Government policies during the 17th and 18th centuries favoured mining and Navy interests, restricting the rural population's use of the forest commons. The commons and the Crown lands were largely privatised around 1800, and the ensuing philosophy of economic liberalism was against any restrictions on ownership right. Thus, modern legislation was introduced as late as in 1903, in spite of the ambitions of several generations of foresters inspired by the emerging forestry thinking on the Continent, aiming at sustainable timber production. From that year, legislation and institutions were developed gradually striving to utilise the full timber producing potential of Sweden's forestland. From 1979, this policy reached a climax, with far-going state control of forest management while retaining formal ownership rights. The forests were restocked the forests but environment had been steamrolled – at least, a growing opinion saw it like that. After 1990, the policy was reoriented towards more broadly understood sustainability and multifunctionality. This most notably was achieved through the 1993 Forestry Act, but also through new environmental legislation, taxation and property legislation and institutional change, in parallel with similar developments in a majority of European countries. The change can be seen as a transition from state-formulated policy to forest governance where several actors compete for influence. - Policy development over the four centuries is seen as a result of political and economic forces. During the 17th century, Sweden was in many respects a military state where the Crown and the Nobility shared economic interests, while the Estate of Peasants (the peasants never lost their political freedom in Sweden) struggled to defend its land rights. During the last decades of the 18th century, the Crown aligned itself with the Peasants, curbing the former elite, preparing for the Napoleonic era (~1800). This was marked by a transition towards political and economic liberalism, privatisation of commons as well as of public land, and an ascendancy of both peasants and urban entrepreneurs. Towards the end of the 19th century, forest industry became an important actor, while the state wanted to ensure social stability by safeguarding farmer interests. After 1950, industry and the trade union interests dictated the policy, while traditional farming-with-forestry was transformed, losing political leverage. At the end of the 20th century, increasingly urban middle-class values came to dominate the ideational landscape, paving the way for present policies.

Key words: Silviculture law, Forestry Act, forest owners, subsidies, extension

NOTE: SOURCES OF GENERAL REFERENCE

Most sources in this field are written in Swedish. Stridsberg & Mattson (1980) provide a thorough analysis of the role of forestry in relation to general economic and social development from early modern time and on the role of the developing legislation in the general political process. Eliasson and Hamilton (1999) describe the Crown's efforts to regulate forestry since late medieval times, with a superficial treatment of the 20th century. Ekelund & Kihlblom (1996) and Ekelund & Hamilton (2001: in English), concentrate on the period after the first Forestry Act (1903), analysing the objectives of each piece of legislation and making a detailed follow-up of their implementation, with focus on the work of the County and National Forestry Boards. Enander (2000, 2001, 2003, 2007) provides an account of the political processes behind the successive Forestry Acts, against a background of the general development of the forestry and forest industry sectors. All these authors focus on public policy making.

A broad account of the development of forestry in Sweden, including legislation and institution building, is provided by Kardell (2004). Eliasson (2002) deliberately takes a bottom-up perspective in his account of the forestry boom in the 19th century and the consequent conflicts of interests when traditionally minded peasants encountered officialdom and capitalism. Stjernquist (1973: in English), Professor of Sociology of Law, examines the legislation and the work of the Forestry Boards in relation to private forest owners between 1905 and 1960 from a sociological perspective: in two later Swedish language papers (1992, 1993), he develops refreshing views on tenure and legislation. From the same perspective, Appelstrand (2007) examines forestry legislation up to 2006, with special emphasis on environmental governance.

When general information from Eliasson & Hamilton (1999), Ekelund & Hamilton (2001), and Enander (2000, 2001 and 2003) is used for the running narrative, no specific references are given, as the accounts overlap. Direct references to parliamentary committee reports (SOU), government proposals to the parliament (Prop), and legal texts (SFS) are given as footnotes. Translations of these texts are partly from Stjernquist, partly my own.

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1. Legal arrangements up to 1900

1.1 INTRODUCTION

In a preceding paper (Nylund & Ingemarson 2007), forest tenure in Sweden has been examined. After radical privatisation during the 19th century, a mixture of family holdings (about 50%), company forests, and publicly managed land characterised the 20th century. The present paper examines how the State strived to first regulate and later actively develop forest resources through legislation and institution building. The analysis ends with a summary of policy reform expressed by the 1993 silvicultural act and its consequences. An examination of national forest policy developments since the mid 90s, and the role of Sweden as an actor in the EU and UN forest policy will be presented in a forthcoming report.

Up to the 19th century, the guiding view of all forest policy was that forest is a God-given good to be exploited with due consideration and restraint (cf. von Below and Breit 1998). The concern over perceived and real timber scarcity set the precedence for Europe. However, the first scientific foresters in the early 19th century saw forest as a resource that could be managed, developed, and increased. In Sweden, it took three generations for these ideas to enter the public mind and be expressed in Sweden's first Forestry Act (1903). The 20th century saw successive more normative and coercive legislation, until a reversal in 1993. The latter shift in policy has been evaluated by government authorities and publicly discussed.

In a survey of forest legislation, public extension, and forest owners' response, Stjernquist (1973, p.21 ff.) observed that traditional law aims at preserving the existing social order in society, whereas, legislators assume the laws take effect by their mere existence. Conversely, Stjernquist (1973) claimed, modern political legislation aims at changing the behaviour of individuals (as well as authorities and public companies). Forestry legislation in Sweden and other countries are, according to Stjernquist (1973), early examples of a new legal thinking, the result of which is nowadays evident in every aspect of life. The legislation gradually introduced from 1903 to 1948 had two immediate goals: to stop destructive logging practices and to introduce orderly silviculture among private forest owners, in the beginning almost exclusively people combining agriculture with forestry. The aim of the present paper was to describe how legislators strove to influence the behaviour of Swedish forest users/owners, above all peasant ones, from early modern times to the present, and how the users/owners responded, particularly those managing holdings.

1.2 THE PERIOD OF THE COMMONS

Legislation in pre-Christian and medieval Sweden was based on provincial laws, codified in the 12th century and onwards (cf. Hoff 1997, Eliasson and Hamilton 1999, Fritzboøger 2004). In the 14th century, these formed the basis of a Country Law and a Town Law. Under this legislation, the use of what is now called “minor forest products” was central: timber was so widely available that it had less focus. Royal prescripts were issued to regulate specific matters, but did not reflect any kind of consistent or public policy.

The establishment of the centralised national state during the first half of the 16th century also marked the beginning of a consistent forest policy. Firstly, in 1542, the Swedish Crown presented a general claim to all unsettled land and, less specifically, upheld a right as a partner in all commons. These claims reflected medieval practices as stated in the Danish Jutland’s Law and elsewhere in Europe (cf., Eliasson and Hamilton 1999, Fritzboøger 2004), but were never raised in Sweden. Secondly, the Crown reserved the right to all oak trees; these were indispensable for the fleet. This right was to remain ‘a thorn in the eye’ to the peasants as long as it existed. Thirdly, the mining industry, requiring vast quantities of wood and charcoal, was given rights to forest use on former commons, as well as the income from land tax on those areas. These measures indicated the Crown considered itself as an overlord of all forest, having a dominium directum, and all other parties had various kinds of non-exclusive user rights, dominium utile. Compared to most of Europe, the regal claims in Sweden came late and were modest. In neighbouring Denmark, according to the medieval Jutland law’s concerning forest commons, the king claimed ownership to the soil, and the peasants owned the growing trees (cf. Hoff 1997, Fritzboøger 2004).

A constitutional reform in 1617 created the formal preconditions for modern-style lawmaking. In 1647, the first pieces of regular forestry legislation were passed in the form of two Forest Ordinances: one dealing with “carrying trees”, including oak for shipbuilding; and, the other, concerning restricting wasteful logging practices and shifting cultivation in high forest. Both matters had been previously treated in royal letters and discussed in Parliament, however, this was the first time the form and procedures of legislation regarding forest issues, still observed today, were used. Heavy opposition to any restrictive legislation was weathered during Parliamentary debates preceding the two ordinances, with the argument that this infringed on property rights and “God’s Order of Creation” (see discussion in Eliasson and Hamilton, 1999). The same arguments were to be raised during parliamentary debates two and three centuries later!

In the period 1674 to 1697, several royal commissions worked in southern Sweden with the main task of demarcating Crown land from the commons. However, they also sought to regulate the peasantry's user rights in the Crown forest, thereby, setting a standard for their management. Forest administration had the right to mark out timber for the peasants' immediate use. Another round of commissions during the latter part of the 18th century also discussed forest management, but had little influence on policy.

Forest administration gradually developed. The first Royal Master of the Hunt and Game Keeper (Jägmästare) is mentioned in 1551, and the organisation was designed to protect and organise royal hunting. In 1634, a parallel post as Riksjägmästare, or in effect a Chief Conserver of Forests, was instituted. Around this nucleus of a national forest administration, a network of higher and minor officials was developed, who were charged with maintaining "law and order" in the forests, above all to look after the Crown's rights to oak trees and stop other illicit use of the forest, according to existing local rules. Until 1780, even subsistence timber from the village commons had to be marked by the forest service¹. The spirit of all legislation was to prohibit perceived destructive practices, not to encourage creative practices. The guards were severely underpaid and corrupt, and were loathed by the peasantry, who considered their activity as harassment of rural people.

The general attitude of the authorities towards the rural people and their use of forest goods was restrictive and negative. During the latter decades of the 18th century, King Gustavus III wanted the peasants' support in his struggle with the nobility and gradually reduced the staffing of the forest administration and relaxed regulations (main deregulation in 1789, beech trees 1793, ship oaks 1830, mast trees 1875: Enander 2007b, p. 45).

In a paper on forest tenure (Nylund and Ingemarson 2007), the appearance of new perceptions of the concept of land ownership that resulted in successive land reforms is presented. Simultaneously, the age-old resistance to the Crown's interference in the use of private forests developed a more clear-cut ideological basis, economic liberalism. As a result, state interference in the expanding forest economy was minimised and Crown land was partitioned and privatised.

1.3. BUSINESS, BUT NO LEGISLATION

At around 1850, large parts of Sweden's forest land, except in the North, was demarcated and under private ownership (Nylund and Ingemarson

¹ According to the Royal Ordinance on the Forests of the Realm, 1734.

2007). With the introduction of steam saws and Britain opening up free trade, saw milling increased and continued to expand for the rest of the century. Pulp and papermaking became important after 1890. The rest of the North was successively privatised or brought under Crown management. Over the entire 19th century, forest exploitation increased, and the old fear of timber shortage gained substance. The professional foresters, notable among them A. af Ström, founder of the Royal Forest Institute (1828) and author of the first textbook, *Handbok för Skogshushållare* [Manual for Forest Managers] (1823), had a clear vision of how forests should be managed for sustainable yield. However, the spirit of the time was against any legislation on the use of the forests. In 1856, Parliament started a commission to systematically gather information and formulate proposals, but in 1858, it decided not to legislate on the management of private property, but to strengthen and develop the management of Crown forests. With this purpose, the State Forest Directorate (*Domänstyrelsen*, later renamed *Domänverket*) was reorganised 1859 to manage remaining and newly acquired Crown land according to the best contemporary standard. The purpose was multifunctional: to generate income for the Crown, to ensure timber supply to sawmills, and to set tangible examples to corporate and estate forest owners. Management principles for these forests were laid down in Forest Ordinances. Ordinance 1866:62, followed by 1894:17 required silvicultural management plans based on scientific principles and aiming at high sustained yield (cf. Dickson 1956, p.28 ff.). As the companies' holdings became larger, they modelled their forestry organisation after the State Forestry organisation, with districts and sub-districts headed by professional foresters.

This was a result of concern for forest issues arising in Parliament along with the expanding forest industry and the spread of clear-cuts. The "1856 forestry commission" presented proposals for an updated legislation, but both the commission and the MPs focussed on the illicit use of the forest, rather than on general management principles. However, there was also a radical proposal, that forest intentionally devastated by its owner should be put under compulsory management by the State Forest Directorate. This idea was hotly opposed in Parliament, and all initiatives to legally compelling rules for regeneration after exploitation were deferred. As an illustration of the mood in the parliamentary estate of Peasants, protests were even raised against a recent ban on shifting cultivation, which was seen as an intolerable infringement of property rights (quoted by Eliasson 2002, p.335).

There were propositions for legislation similar to that introduced two generations later. JM Sprengporten (1855), an influential politician with a

career involving forestry, developed ideas that were to reappear in the future. Any forestry law must define the concepts forest and/or forestland. The prime purposes of a law should be to prevent the devastation of growing forest and ensure final felling was undertaken in such a manner that regeneration was possible.

Considering the political opinion against regulation, the State Forest Directorate sought to use existing property legislation as a tool to stop illicit cuttings. These were no longer carried out by single peasants who cut household timber where they had no right to do so, but by unscrupulous loggers, or even companies, supplying the industry with timber. In the county of Västerbotten, the illicit timber volume confiscated by the Forest Service in between 1866 and 1868 was larger than the total volume legally marked out for felling. The number of legal convictions for forest-related crime rose to over 200 per 100 000 inhabitants, whereas, in the rest of the country at that time, forest-related crime ranged from 2 to 30 per 100 000 (both examples from Eliasson 2002 p 342). Dramatic action by the foresters sometimes came close to armed violence, but overall, after some very turbulent decades in the north, law and order was restored. In public debate, strong opinions still claimed that illicit logging was not to be treated as theft, as the timber appropriated was not produced through man's labour but given by Nature's bounty. Eliasson (2002) makes a note on large-scale exploitation, illicit or legal: As general industrialisation was just starting, employing relatively few workers, the forest work provided a livelihood for large numbers of landless households and decisively contributed to reducing social tensions.

Politically, the forest issue continued to be debated. The 1862/63-parliament update of the criminal law made it easier for State foresters to act against illicit logging. The parliament of 1865/66 decided to establish extensive "Crown parks" for the rational management of the northern forests. The Ordinance for the Crown forests was issued, setting principles for a selective logging system aimed at continuous regeneration – a practice lacking empirical support and much debated since af Ström's (1830) devastating criticism. Due to the special conditions on the island of Gotland, regeneration after clearfelling was made compulsory, despite general resistance to any kind of regulation. A comparison of the records on reforestation with the logging statistics from other parts of the country reveals that even in the Crown forests, reforestation was neglected where the exploitation was most intense (Enander 2000).

2. Teaching people silviculture by law, 1903-1983

2.1 THE PATH TO THE FIRST LAW IN 1903

The traditional four-estate parliament was reformed in 1867, and the new two-chamber organisation allowed the Peasants to play an even more prominent role. A new forest committee delivered its report in 1870 and presented estimates of the status of the forests; a delicate task as no national forest inventory had been conducted. The commission proposed further intensification of State forestry, and worried about “social and moral consequences” of ongoing exploitation. Therefore, a limit on logging leases of ten years was suggested, compared to the current twenty years. It sought to slow down extraction through a ban on transport and milling of small-scale logs, supposedly from immature trees, and, most radically, recommended compulsory regeneration after final felling, in many respects echoing Sprengtporten’s proposal. The State Forest Directorate criticised all recommendations; it appears that the Directorate envisaged further strengthening of State-owned forestry. In accordance with this, the Directorate got a parliament mandate and funds for buying land for reforestation in southern Sweden. This created a basis for state forestry in southern Sweden, where most of the former Crown land had been privatised during the first decades of the century. From that date up to 1955, 635 000 ha was acquired for state forest production, 70% in the southern part of the country (Eliasson 2002). Along with this, there were areas never privatised, resulting in 4.4 million ha, including unproductive land.

In 1874, the Government proposed a silviculture law, based on the c1856 commission recommendations, compelling all private owners to ensure regeneration, which in case of failure could be executed by the authorities at the expense of the owners. However, due to dissension between the two chambers of parliament over the severity of the proposed sanctions, no laws were enacted (Enander 2000). In contrast, Finland passed its first silviculture act, similar to the proposed Swedish one, in 1886 (Palo 2006). Other legislation proposed in 1874 and 1875, defining grave illicit logging as theft, was intensively debated, particularly where the limit was set between single, often landless households’ unregulated use of wood, and commercially motivated theft (Eliasson 2002). With the passing of the latter laws, the privatisation of forest could be considered complete: forest goods were treated by law as another commodity, leaving a grey zone in its actual application for social reasons only. In this debate, the argument about the forest as free goods was not broached; illustrating how growing commercialisation was rapidly changing age-old perceptions. Finally, in 1874, several MPs proposed a law regulating the minimum dimension for

timber to be felled, but after heated debate, this was applied only to the 'hottest' industrial areas in the north. Even so, the limitation of the rights of private ownership was considered unacceptable by many; for example, the Minister of Finance, CF Waern, politically a Liberal, resigned from his post as a consequence of the decision (Enander 2000).

The unsatisfactory results of forest regeneration continued to be debated, and in 1888, the parliament a subsidy for forest plantations on private land was introduced. However, the main issue was company acquisition of peasant land, further described by Nylund and Ingemarson (2007). The matter was raised in Parliament in 1892 with no consequence, but a decade later (in 1904), the situation was considered alarming enough for restrictive legislation to be proposed, even if this seriously affected the owners' rights to sell their land. In 1906, a law was passed: no further peasant land was to be sold to corporate owners in the northern part of the country.

In response to the inability of the Parliament to act on the key issue of a silvicultural law, King Oscar II and Prime Minister Boström initiated a new forestry commission in 1896, which represented various interest groups, rather than political parties. The commission collected facts and research results from the country and abroad and arranged nationwide public meetings that followed a strict agenda of matters to be discussed. In addition, a wide array of local and regional authorities was consulted. After much debate, the following commission proposals were accepted by Parliament² in 1903:

- "Private land must not be logged or treated after logging in such a manner that regeneration of the forest is endangered"
- If the land has been abused so that the forest does not regenerate, the responsible person is obliged to correct the situation.
- County Forestry Boards will be set up to enforce proper action in such cases"

However, some committee proposals were not accepted:

- a requirement for professionally trained managers of larger estates and company forests.
- a nationwide law on minimum dimension for clear felling.
- compulsory marking by public inspectors of all trees to be felled.
- a declaration of the principle of sustainable timber production and long-term economic viability.

An overview of the provisions of this and all subsequent Acts is presented in Table 1.

² SFS 1903:79

Table 1. Issues treated in the successive Forestry Act

	These laws does not apply to state and other public forests, which are governed by their internal rules of similar purpose			These laws apply to all forests in the country		
				Amendments to 1979-429	Introductory statement: Conservation and production are to be given equal consideration	
Duty to manage the forest	§1 Privately owned forest land must not be logged in a way clearly endangering regeneration. If it has been devastated, the responsible person is obliged to ensure its restoration	§1 Forest land has to be used for forest production	§1 Forest land has to be managed to achieve a satisfactory economic gain and an even yield Amendment 1974: 1026 The interests of environmental protection have to be considered.	§1 Forest land has to be managed to produce a sustained high and valuable timber yield. Environmental protection and other public interests are to be considered	§1 Forest land has to be managed to produce a sustained high and valuable timber yield. Environmental protection and other public interests are to be considered	§1 Forest is a national resource to be managed for a sustainably good yield, at the same time maintaining biological diversity. Its management should consider other public interests as well.
Validity of the law				§4 The law of protection of nature overrules the forestry law	§4 Do.	
Definition of forest land			§2 Short definition of forest land	§2 Definition of forest land and productive forest (>1 m ³ /year)	§2 Do	
Rights of Sami people			§3 Brief mentioning of special Sami rights	(No mention, but some relevant provisions exist in the law regulating reindeer herding)	§20-21 Consultations and consideration in reindeer herding areas. Also §31	
Use of forest land		§23 Forest land may be transferred to other uses; permit required for transfer to extensive grazing land	§30 Do.	§3 Forest land may be used for other purposes	§3 Do.	
Subsistence forestry		§4 Wood and timber may always be felled for household use	(Removed. Only provisions for old easements included)			
Regeneration methods				§7 The authorities may prescribe methods for regeneration, sources of seed and seedlings, etc.	§6-7 Do. Deep ploughing for site preparation not allowed. Restrictions on exotic and cloned material	
Pre-commercial thinning				§9 Pre-commercial thinning compulsory		
Thinning		§3 Felling of immature forest only through silviculturally sound thinning	§6 Do. Economic definition of "immature".	§12 Felling may only take place as thinning, aimed at improving the forest's development, or as final felling that makes regeneration possible	§9 Thinning is compulsory when the forest is so dense that its production of valuable timber is reduced	§10 Felling should be compatible with regeneration or improvement of the forest
Final felling		§5 Mature forest must be felled and the land treated so as not to imperil regeneration	§7 Mature forest must not be felled so that a future even yield is imperilled nor so that regeneration is imperilled	§13 Final felling allowed only when growth is declining, compared to the rotation average		The National Forestry Board gives instructions on lowest felling age, allowable clearcut area, etc.
Reforestation of unproductive forest land		§9 If forest has been felled so that natural regeneration is unlikely, sowing or plantation must be done and the success of the work ensured	§14 Do.	§5 Compulsory reforestation of poorly stocked or idle forest land	§5 Do.	

Forestry Boards to provide advance approval of intended felling		Owner may request advance approval of intended fellings	§10 Do.	§16 Do.		§13 and 14 Do.
Advance notification of intended felling			Amendment 1974: Compulsory notification of intended felling larger than 0.5 ha	§17 Compulsory notification of intended felling		§14 Compulsory notification of intended felling, of regeneration method and of measures to protect environment and cultural remains
Compulsory reforestation after calamities		§10 Reforestation required after calamities, but with a cost limit	§15 Do.	§6 A Forestry Board may order a rot-damaged or declining stand to be clear-felled and reforested		Not clearly stated, but a consequence of §14
Owner always responsible for regeneration/reforestation after felling	(§1 Unclear who is responsible)	§11 The owner is always responsible for regeneration, but contractors are economically responsible if exceeding permits	§18 Do.	§10 The owner is responsible for the regeneration of the forest		§8 Do.
Further rules regulating final felling				§14 The owner has to ensure that fellings create an even age distribution. Minimum ages and maximum areas for clearfelling, expressed as proportions of total area etc.	§14 Do. Compulsory minimum and maximum areas of felling	§11 Maximum but no minimum area
Management plans and data					§21 Silvicultural management plans compulsory for holdings > 20 ha in S Sweden or >40 ha in N Sweden	§14a Documentation of forest status and conservation plans compulsory.
Protection forest	Special rules for protection and management of seaside and highland forest	§18 Do	Extended rules for protection forest and forest difficult to regenerate.	Management rules for protection and highland forest, relaxed compared to previous rules		More detailed rules for protection and hard to regenerate forest
Wetlands		§22 Special rules for forest on wetlands	(wetlands not mentioned)			
Valuable hardwoods					1984:119 Law for oak, beech, elm, ash and other valuable hardwoods	§22-28 Dealing with oak, beech, etc..
Insect pests			§34 National Board authorised to issue special regulations to combat insect pest outbreaks	§20 Do. To prevent and combat pest outbreaks		§29 Do.
Silviculture and conservation				§21 The authorities may regulate silvicultural practices in the interest of conservation, however, not to a degree seriously interfering with ongoing land use		§30 Do. §32 Anyone planning to try new silvicultural methods must submit an analysis of environmental consequences.
Authority of the Forestry Boards	County Forestry Boards to supervise and counsel	Do. A Board may authorise exemptions and pass advance judgements on the legality of proposed management measures. A Board may halt illicit fellings, levy fines and confiscate illicit timber.	§4 Do. Establishment of a National Board to supervise county Boards	Do.		
Work of the Forestry Boards	1912:274 Income from timber sales to be declared in income tax return	1923:213 The Forestry Board should - divulge silvicultural knowledge - pay out subsidies - otherwise promote good forest management - ensure the supply of seed and seedlings - supervise and enforce the law - provide advice and technical instruction to forest owners at a fee or free of charge	1941. Setting up of a National Board of Forestry	Establishment of ÖSI - general assessment of forest condition as a tool for supervising forest owner performance. (1975: general obligation to notify FB about intended final felling)		
Other pertinent legislation	1933:269 Control of grazing. 1937:222 Control of forest fire	1923 onwards. Government instructions to conduct a national forest inventory, county by county				

The 1903 Forest Act was the first step towards a general obligation for rational forest management. Reception to the law was mixed. It was a victory over century-long resistance to public regulation of the use of private property, but insufficient in itself, according to forestry professionals. Lacking a legal definition of forest, and keeping in mind the widespread extensive grazing, law enforcement officials found it difficult to delimit land where forest laws were to be applied from agricultural land with trees on it. Forest owners, on the other hand, were initially incensed by hard-line representatives of the newly instituted Forestry Boards. One major issue was at which point of owner mismanagement legal intervention had to begin. Details of early deliberations are presented by Carbonnier (1907). Over the next decades, forest grazing slowly lost importance, but was still such a problem in 1948 that it was specifically banned. A greater problem was that younger forests lacked protection, and were felled once the older trees were gone.

2.2 THE FORESTRY BOARDS – A KEY TOOL FOR FOREST POLICY

The privatisations in the 19th century, creating a quarter of a million forest-owning peasant households covering half of the country's productive forestland, could have resulted in permanently poor management of these forests. Management of company land also needed consolidation after decades of exploitation. Referring to the observations of Stjernquist (1973), a law aiming at changing social practices requires some kind of active enforcement. Fortunately, the path chosen was that of extension, primarily educating and motivating forest owners: coercive and punitive action was only used as an ultimate corrective to deliberate law infringement. This principle was to be actively upheld during all successive legislation. The creation of County Forestry Boards was a far more decisive act than any single legal paragraph on forest management. A hundred years later, the Swedish Forest Agency, as the authority is now called, plays a pivotal role in the implementation of national forest policy, particularly among the owners of 250 000 private forest owners (cf. discussion in Appelstrand 2007, pp.195 ff).

The decision to start afresh and not use the State Forest Directorate as a base for the new organisation was strategic. However, the forestry boards were not completely from the beginning, but incorporated both staff and working methods from existing county "hushållningssällskap" (agricultural societies), a kind of semi-public advisory organisation, also engaged in reforestation of degraded forest and wasteland, and in counselling landowners on timber affairs. After a few years with a coercive policy, the Forestry Boards opted for the same strategy the societies had followed, i.e. counselling and

motivating the landowners to manage and improve their forest. This policy was explicitly mentioned in the government proposition for a new law in 1923³. While the 18th century forest guards had been loathed, the 20th century silviculture advisers were welcomed in most rural homes. This was facilitated by advising on management practices, particularly felling, and by initially being lenient about law enforcement. The strategy has been criticised, but considering past records, was a wise policy. The boards strove to place staff in their own home regions, which ensured familiarity with local conditions and enhanced their acceptance among the forest owners. Further insights into that process are provided by Stjernquist (1973).

The Forestry Boards were financed through a duty levied on all fellings, related to the market stump value.⁴ The forest owner had to declare all fellings for sale in his regular income-tax return, and paid normal income tax and a special duty allocated for the Forestry Boards. The size of the duty varied, but was originally 1.3% of stumpage, to be compared with levels in the 1980s discussed below. In 1925, a coordinating body was established to ensure all Forestry Boards followed the same standards: in 1941, this was upgraded to the National Board of Forestry⁵. In 2006, the individual county boards were brought into a single organisation, the Swedish Forest Agency.

During this time, Sweden was considered mature for a system-based on actual income from fellings i.e. taxation of income from forestry. This required that timber sales were regularly accounted for and not hidden away from the taxman. The tax based on stumpage value rather than total sales, was advantageous for peasant owners, as they could do the felling themselves and the additional income was not taxed. Neighbouring Finland had similarly low levels of corruption, but chose to levy the tax on the calculated productive capacity of the forestland instead of on actual income, and maintained this system until the late 1900s.

2.3 A FULL SET OF FORESTRY LAWS: 1923

Once resistance to legislation was broken, the advocates of more active national forest legislation continued to push their ambitions further. In 1911, another parliamentary commission started work identifying three levels of ambition for legislation:

³ Prop. 1923:104

⁴ SFS 1912:274. Initially (SFS 1903:79) a tax was levied on exports only.

⁵ Prop 1941:94.

Regeneration laws, ensuring forestland remains in a productive state. This was achieved by the 1903 Act.

Laws protecting growing forest and setting lower diameter limits to logging. This became the next immediate goal.

Laws requiring rational and sustainable silviculture. This was proposed in 1923, but was rejected.

In the course of its work, the commission authorised local forest inventories and made nationwide estimates of the state of forest resources. The results highlighted over-cutting, which threatened long-term timber supply.

The commission was about to present its recommendations, when the Government was prompted into immediate action by the ongoing economic crisis precipitated by the protracted World War I (1914-1918). Fuel-wood cutting had increased sharply as the import of coal was cut off, and growing forest stands were widely ravaged (cf. Ekelund and Hamilton 2001, p.37 ff.). The response was a temporary law⁶ (1918) banning all cutting of growing forest, except for proper thinning, without explicit permit of the Forestry Board. Another paragraph aimed at curbing speculation and forbade resale of properties within five years of acquisition. This regulation was modified in 1938⁷, when logging of more than 2% of a property within 5 years of acquisition was banned, without Board authorisation. Finally, the Forestry Boards were permitted to immediately forbid logging without first bringing the issue to a legal court (Enander 2001 p79; Appelstrand 2007 p.39). The laws were passed in Parliament without opposition.

As soon as post-war conditions had stabilised, the proposal for protecting growing forest was rementioned. The temporary law had been renewed annually, but resistance to making it permanent was notable. Ironically, the critical voices took the poor state of the forests as an argument against protection: as there was no old timber left to cut, they claimed, the owners would be denied their right to harvest if younger trees could not be felled. The issue was still whether property rights were to be upheld against the principles of sustainable production forestry; however, the five previous years of regulation rendered the idea of compelling regulation acceptable to a parliamentary majority.

⁶ Prop 1918:441

⁷ SFS 1938:392

The resulting 1923 Forestry Act⁸ was a more complete piece of legislation than in 1903 and emphasised the key role of the Forestry Boards. The 1903 statement that “Private land must not be logged or treated after logging in such a manner, that the regeneration of forest is endangered”, was reiterated with short definitions of forestland and the following new points:

Should the forest be left in an unsatisfactory state after logging, the owners were obliged to actively ensure its regeneration [by planting, sowing, etc.]

- The owner’s obligation to ensure regeneration was extended to cases of storms, insect damage and other calamities.
- Immature forest could be thinned, but only for a better stand development (unless specially authorised).
- Felling on a property must not be so extensive that the continued supply of “household timber” was endangered.
- Land classified as “difficult to regenerate” was to be logged only after marking by the Forestry Boards.

However, the requirement of forest management for sustained yield, already proposed by the 1896 committee, was still resisted by small majority of MPs. A proposal to oblige forest companies and major private owners to have long-term silvicultural plans was rejected. The prohibition on felling within five years of a property acquisition, without Forestry Board permission, was not prolonged after 1923, but was temporarily reintroduced in 1938 (cf. Ekelund and Hamilton 2001 p. 39). In 1925, the 1906 prohibition on companies buying peasant land in the north was extended to the whole country, but by then company acquisitions had ceased to be a real issue, as the commercial boom had ended and stumpages were declining. The protection of forest difficult to regenerate was extended by the time-limited 1932 Lapland Act, which made marking by Forestry Board officials compulsory on all land in the northern submontane and montane zone.

The law set precedence for the style and coverage of future legislation (The legal paragraphs were broadly held, and terms were undefined and the Government was responsible for formulating concrete instructions. In practice, the Forestry Boards issued compelling instructions and recommendations that were more general for the forest owners. Thus, in

⁸ SFS 1923:212

publications intended for practical use, interpretations of the law in practical terms were included, as was general advice on how to achieve the best result from silvicultural work. This principle was followed in all subsequent legislation.

2.4 THE NATIONAL FOREST INVENTORY AND OTHER DEVELOPMENTS

A major obstacle to the formulation of efficient forest policies has been the lack of reliable data on the state of the forests. By 1923, the principles of large-scale forest inventory had been scientifically developed, and a large-scale pilot inventory had been carried out in the county of Värmland. The Government authorised successive county inventories; in 1929 the entire country was covered⁹. Reliable estimates of growth and standing volumes were obtained for the first time, but acquiring information on felling quantities proved more difficult (and continues to be so even today). A second round of inventories was initiated in 1938, but were not completed until 1952, as war caused a standstill.

Meanwhile, as the Great Depression and then the path towards World War II dominated attention, forestry ceased to be an issue for two decades. The Forestry Boards became accepted and even appreciated by institutions; however, their work during this period was later severely criticised for not making full use of existing legislation, particularly regarding regeneration. The principles for thinning were established among forest owners, who realised a tangible benefit from it. Costly regeneration of logged-over stands was less popular. Furthermore, professionals considered selective logging a manageable way of ensuring sustainable forest production: retrospectively, they were found to be wrong. In the early 1950s, large areas of forest were neither fully stocked nor attained sufficient natural regeneration. Conversely, forestry and forest industry developed into well-established businesses of importance to the country's economy. The period of large-scale illicit logging was over. Companies, peasant owners, and public forest managers had established ways of working and collaborating. Economically rational forestry, primarily aimed at supplying a growing, internationally competitive industry with raw materials, was there to stay for the foreseeable future. Timber measurement was regulated by law in 1935¹⁰, and far from being a mere technicality, an objective measurement system for timber was of fundamental importance for private forest owners negotiating with powerful buyer companies.

⁹ A comprehensive report was published in SOU 1932:26

¹⁰ SFS 1935:xx with subsequent updates

2.5 1948: SUSTAINABILITY AND PROFITABILITY

By the early 1940s, professionals advocating a more active forest policy found the time appropriate for advancing their positions. In 1942, the National Forestry Board was instructed to prepare for a revision in legislation. The goal was to be intensified management, a halt to property speculation, and adaptation to the new forestry and social conditions. It was still understood that focus was on combined agriculture and forestry households, to ensure their proper income and to maintain social stability in the countryside (cf. Appelstrand 2007, p. 49). A proposal for new legislation was presented by the Board in 1946, where principles of sustainability in economy and timber production were clearly stated. Economic sustainability implied that nobody could be forced into unprofitable silvicultural measures. The principle of production sustainability had a pointed formulation: management should aim at even timber extraction over time (Enander 2001).

Forest owners' obligations, as stated in previous legislation, were based on a moral duty towards the good of the nation. However, the complementary view, that forestry is a rational economic activity, had been advanced since the introduction of scientific forestry philosophy in Sweden. The profitability requirement placed the farmer-owner in focus: unless contributing to the total homestead economy, the owners would never take an interest in silviculture. In 1830, the founder of the Forest Institute (later to become the Royal College of Forestry), I.A. af Ström, clearly expressed such ideas in the opening clauses of the second edition of his textbook:

“With Forest Management, such measures are understood, whereby forest land is brought into condition to produce the mostly required kinds of forest and the most useful and largest sustained yield, and the most advantageous use...”

“The more one wants to follow the rules, the more time-consuming and costly the implementation. Wherefore one should always take into calculation the price of forest products in the locality where the forest is to be managed and the requirement of these products in that locality and the more or less advantageous market conditions, and thereafter, choose less or more expensive measures to be taken to bring the forest into higher and better yield.”

The introduction of economic thinking into legislation allowed the issue of detailed instructions on the application of the new law, built on established principles of business administration (Pettersson 1950; Skogsstyrelsen 1949). This included that nobody was obliged to undertake clearly

unprofitable silvicultural measures. In the following debate, the issue still focussed on the rights of private ownership versus a national need to develop a major natural resource. However, the profitability clause appeased the opposition, and the law was passed in both chambers.

These were post-World War II years, and aspects of coordinated national planning were popular in Europe. The second novelty of the law, the principle of even yield over the years, reflected a concern over raw material supply to the industry, now rapidly recovering after the wartime slump. For the forestry companies, it caused no problems, but its application to private forestry required flexibility in its enforcement.

Regulations already present in the 1923 act were updated in the 1948 Act. With a few amendments, it remained valid until 1979 (for details refer to Table 1).

In these years, forthcoming data from the second national forest inventory indicated the state of the nation's forests was far from satisfactory. The Forestry Boards' extension work had resulted in better thinning regimes in growing forest, but too many stands were under stocked after repeated selective cutting and forest grazing that ruined the seedlings emerging in the clearings. Thus, a nation-wide restoration of the forests to full production capacity was set in force. In the wake of the war, it was broadly accepted that private property had to serve a common good, not only benefit its owners. The "Nordic model" in general sought to reconcile public and private interests, avoiding both nationalisation and extremes of individualistic behaviour. The gradual acceptance of the 1948 law among a majority of landowners allowed a more vigorous forest policy than before. Led by the State Forest Directorate and the companies, active regeneration measures (planting, soil preparation, sowing etc) were increased by a factor of four. During the following decade, the foundation for the current high level of forest production from fully stocked stands was laid.

2.6 DIVERGENT VIEWS AND NEW ACTORS IN POLICY MAKING

The post war period started with reconstruction – Sweden remained materially unscathed by the war and the economic boom accompanying the Korean War. After this, the yearly growth of forest industry was 5-6%, accompanied by slowly falling timber prices, making logging in parts of the inland unprofitable. However, development was possible because of rapid mechanization and rationalization of forest operations. A short boom in 1973-74 was followed by turbulence up to the early 1980s, and then good profitability, except during the 1990-93 recession (Enander 2003, pp38 ff).

The national inventory data (the inventory was by now continuous) showed that felling exceeded growth only for a short period in the mid 1970s, the only time in the 20th century. However, during the boom, many voices claimed the private forest owners were not sufficiently active in their management. In the early 1970s, the forest cluster interests had grown strong enough to cause a shift in priorities of forest policy, favouring the industry's well being before the interests of family forestry. Socially, this was declining in importance, as former subsistence farmers were recruited to the factories, and the number of full-time farming households sunk to 60 000, compared with the 250 000 forest holdings, in 2000.

The political left had always been suspicious of the private forest owners' capacity to manage their forests. A parliamentary investigation in 1925¹¹ probed the issue, but concluded that conditions were rapidly improving, due to the advisory work of the Forestry Boards (Appelstrand 2007, p. 44). The Social Democrat party and some trade unions had campaigned for a larger degree of "Society", i.e. State control, over forestry since the 1940s. In the early 1950s, trade union interests unsuccessfully advocated an outright socialisation of the private forests. In 1956, the former Minister of Finance, PE Sköld (Social Democrat) submitted a proposal to parliament for abandoning the profitability principle and the protection of growing forest, and to make thinning and felling of over-aged forest compulsory, all to mobilise more timber for the factories. For a long time, 'Industry capitalism' and 'trade union socialism' kept company in Sweden's economic policy. By this time, the forest owner associations had grown in strength and wanted deregulation, whereas, the trade unions advocated more regulation. In 1965, another parliament commission on forest policy was initiated, and in 1973, its proposals were delivered. The commission was deeply divided over the majority's proposals to introduce long-term (central) planning for the forest sector, to scrap the sustainability principle in favour of flexible forest exploitation in line with the business cycle, and to introducing a system of fees and subsidies to steer the timber market supply.

In 1973¹², the commission (majority) proposed that all Sweden ought to be subjected to one general management plan, regardless of ownership, and claimed the sustainability principle could be abandoned, at least as long as the business cycle was positive. However, such ideas were considered alien to the "Swedish way", and the whole report was discarded by the

¹¹ SOU 1925:12

¹² SOU 1973:14

Government. An immediate result was two amendments to the existing (1948) legislation, with no reference to the need for enhanced fellings:

Forestry had to show consideration for conservation and environmental aspects (1974¹³; see below).

The Forestry Board had to be informed in advance about all final fellings (1975)¹⁴.

2.7 STICKS AND CARROTS: FORESTRY BY REGULATION, 1979 AND 1983

However, after further preparations by a new commission team, a completely revised Forestry Act was introduced in 1979¹⁵. The law introduced obligations of dubious economic advantage to the owner. The socio-political development in society had resulted in a shift in balance away from the interests of peasant landowners, about 5% of the total population, and towards the increasingly urban majority of workers and middle-class. The “national well-being”, i.e. the forest industry, required that full production capacity of the national territory should be utilised.

In the 1979 Forestry Act, “a continuously high and valuable timber yield” was substituted for the previous goal of “a satisfactory economic gain and an even yield”, making the individual owner’s economic interest a secondary matter. To the 1948 obligation to thin was added:

- compulsory pre-commercial thinning and,
- compulsory reforestation of low-productive forest, including species rich, former grazing woodland

In 1983¹⁶, the advocates of regulation managed to add:

- compulsory felling of mature forest: at least half of the area ready for final felling had to be felled and
- mandatory forest management plans.

The National Board of Forestry issued detailed instructions for the observation of the new provisions.

¹³ SFS 1974:

¹⁴ SFS 1975:

¹⁵ SFS 1979:429

¹⁶ SFS 1983:427

Why did a market economy society such as Sweden concede to accept this level of regulation? The answer may be found in the success of the post-war forestry model. Formal property rights were respected within the framework of complete regulation of the agricultural and forestry sectors and the silvicultural rules contained a high level of long-term economic rationality. As the average economic rotation of timber forest ranges from 80 years in the south to 150 years in the north, the recovery from the badly exploited forests of the 1903 Act to the present state is remarkable. Sweden's entire forest production capacity was now geared to one goal: that of maximum production. The restoration work initiated after 1948 was successful, and the age structure of the forest improved. With the exception of two shorter down periods, one in the late 1970s and another more serious in the early 1990s, output of both saw milling and pulp making has steadily increased.

From the beginning, subsidies, especially for regeneration of less profitable objects, were an important instrument in the work of the Forestry Boards; even though the forest owners contributed both to the general budget of the boards and to the subsidies through a "silvicultural fee" or tax levied on the timber sales¹⁷. In order to support self-employment among private owners, the basis for taxation was the standing value of the timber; logging income was exempt (see above). In the 1960s, the silvicultural fee was less than 0.1%.

In terms of total financing including subsidies, about 1/3 of the Forestry Board budget came from silvicultural tax, 1/3 from the state budget, 1/3 from fees for services provided. The total allocation for state subsidies to forestry (Figure 1), expressed as 1991 price index¹⁸, remained fairly constant up to the late 1950s, with a short exception during the depression years 1933/34, when unemployment relief was channelled to large draining projects. In 1948, legislation regarding subsidies and a lending fund for silvicultural works was updated and made more efficient (Ekelund and Hamilton 2001, p55). From 1959, the subsidies were augmented, and the active intervention policy signalled by the 1979 Act led to an almost tenfold increase, paid for by a corresponding increase in the silvicultural fee.

¹⁷ A detailed account is provided by Ekelund & Hamilton 2001, Appendix 1.

¹⁸ Using the Statistics Sweden long-term price index.

http://www.scb.se/templates/tableOrChart____33837.asp. Budget allocations from Ekelund & Hamilton 2001 p. 250

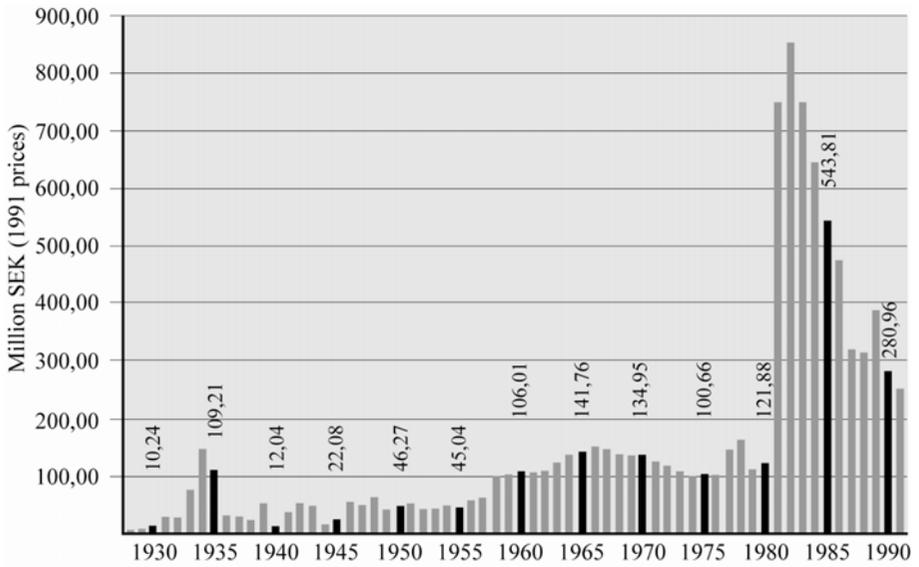


Figure 1. State allocation of subsidies to silviculture 1923-1991.

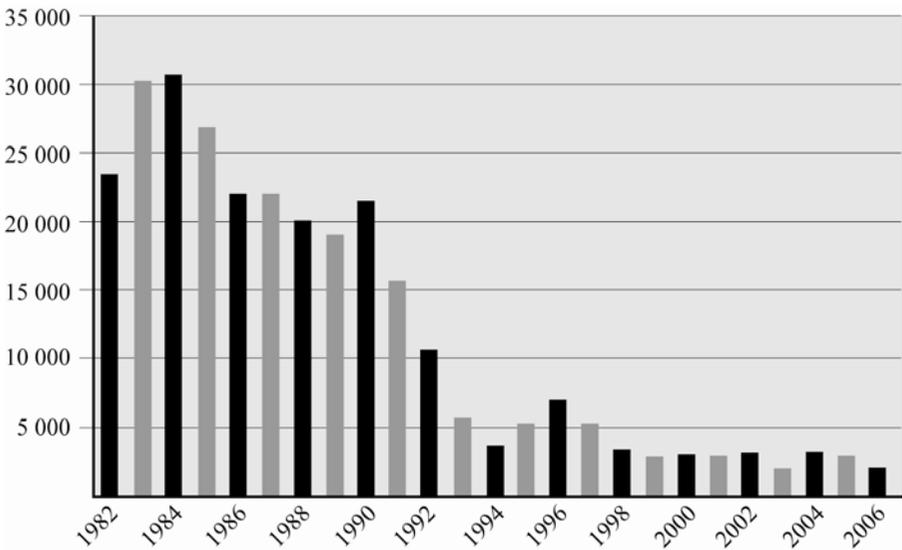


Figure 2. Number of written advice and recommendations to family forest owners by the Forestry Boards 1982-2006. Sources: Statistisk tidskrift, Statistisk årsbok, Skogsstatistisk årsbok

The Social Democrats campaigned for sizable deductions from felling revenue to be deposited in compulsory silvicultural accounts and used for regeneration costs, but this was abandoned along with the 1975 policy committee recommendations. Instead, the 1979 act was accompanied by an almost ten-fold increase in the silvicultural fee, which stabilised at 0.8% during the 1980s. The mobilised funds were initially directed to an intensive thinning campaign, and, to the regeneration of degraded and mountain forest and other less profitable objects, including initially to forest road construction. The funds also paid for the silvicultural assessment (ÖSI) and the establishment of seed orchards (Table 2). A large portion went to northern Sweden. As policy instruments, the subsidies were efficient, but with the increasing pressure for policy reform, the decision was made to abolish both the fee and the subsidies in the 1993 legislation, and allow owners to use their own money as they saw it fit.

Table 2. Allocations of support for silviculture and road building, and silvicultural fee levied 1975/76 to 1993/94

	Direct support	ÖSI + seed	silv. fee	rate 0/00
93/94	99	4		
92/93	90	50		
91/92	135	67		phased out
90/91	241	67	425	8
89/90	244	67	424	8
88/99	255	67	424	8
87/88	294	72	431	8
86/87	231	56	426	8
85/86	333	49	425	8
84/85	364	46	419	8
83/84	435	33	347	6.5
82/83	450	26	262	5
81/82	368	21	295	5.5
80/81	205	10	229	4.5
79/80	...51+150	5	184	10
78/79	119		16	0.9
77/78	116		17	0.9
76/77	93		18	0.9
75/76	78		18	0.9

All data from Skogsstatistisk årsbok (Yearbook of forest statistics), pertinent years. Allocation amounts are not fully comparable over the years, as the base of statistics vary. In 1979/80, an extra allocation was made for support for thinning.

3. Towards deregulation and multi-purpose forest management

3.1 THE EMERGING ENVIRONMENTALISM

During the 19th century, the main legislation issues concerned property rights (discussed in Nylund and Ingemarson 2007) and logging regulation. Sustainable timber production was a concern of the initiators of the 1903 Forestry Act, and continued to dominate the “lawscape” up to 1983. While forestry was being geared for maximum production, a new concern was emerging in general society, environmentalism (cf. Enander 2007b, pp. 177 ff.).

Environmentalism has existed in Sweden since the beginning of the 20th century, ensuring nature preservation through national parks, reservations, and natural monuments. The movement was uncontroversial towards the industrial forestry as only small areas were set apart, the majority being located outside productive forest. Many professional foresters belonged to organisations promoting conservation and preservation. There was no protest against afforestation of the dunes and the Calluna heaths in the southwest, nor against the poor state of logged-over forests. However, the intensification of forestry, starting in the 1950s, slowly awakened articulate opposition. One opinion objected to the “spruce darkness”; the afforestation of marginal agricultural land created an unfamiliar landscape around settlements. The opposite was also criticised: the vast clear-cuts in Norrland sometimes covering several hundred hectares in one block. Efficient regeneration in cold zones was achieved through deep ploughing; this was criticised for destroying the land for reindeer and for trekkers. In other areas, spontaneous broadleaf regeneration in the newly tended regeneration areas was sprayed away with herbicides, causing black headlines in the press. The recent attention on DDT, and the regional problem of acid precipitation contributed to creating an atmosphere critical to forestry and forest industry. In addition to criticism specifically of spruce planting, clear-cutting, ploughing and chemicals became a general “green wave” negative opinion of industrial forestry in general, accompanying general social fermentation and spread of both green and socialist ideals during the 1960s and 1970s.

It took time for the forestry cluster to realise that the world was changing. The ‘self-contentedness’ is illustrated in the legal reform work of the 1970s in that none of the environmentalists’ concerns was considered.. The 1974 obligation to consider conservation aspects would remained unenforced as long as 5§3 of the 1983 provisions, obliging any forest owner to restock low

productive areas with biologically interesting woodland, were enforced by the Forestry Boards, Appelstrand (2007, p 228) claims. However, the National Forestry Board included five pages on environmental consideration in its instructions, including suitable measures during final felling (Enander 2007b p.192). The practice of cutting very large tracts in one operation was abandoned, but the hottest issues of conserving key biotopes, often the “5§3 forests” and the remaining old growth, remained unaddressed until the end of the period. In 1981, Parliament even increased subsidies for replacing the low stocked stands.

Public opinion was changing rapidly, both nationally and internationally. In 1990¹⁹, a far-reaching, new environmental policy was decided by Parliament, and developments until the present day (2008) are based on principles established at that time.

The literature, Appelstrand’s (2007) thesis being an exception, focuses on national factors, but from a European perspective, the Swedish legal reforms paralleled similar processes in many European countries, and were driven by the same ideational forces. These came into expression in the 1992 Rio conference, where both the Convention on Biological Diversity (CBD) and other decisions had direct bearing on forestry, and resulted in a new awareness of concepts such as biodiversity and multiple-use forestry among Swedish politicians. Furthermore, at the European level, the EU (which Sweden joined in 1995) initiated a standing committee on forests in 1989. An update Forestry Action Plan was presented in 1992. With members from all Europe, a permanent Minister Conference for the protection of forests in Europe (MCPFE) was set up in 1990; its second conference in Helsinki 1993 issued a later frequently quoted declaration, emphasising the importance of sustainability and multiple use, as well as representing a European response to the CBD requirements to conserve biodiversity. By 1993, a varied group of European countries (Croatia, Finland, Portugal, Slovakia, Spain and Switzerland) had revised their forestry legislation in the same direction as Sweden, and many more follow suit within the next years (Schmithüsen et al. 2000)

3.2 A REVERSAL OF POLICY: THE 1993 FORESTRY ACT

The forest policies up to the 1950s had considered the well being of the farmer population, and between 1960 and 1990 had served the interests of the industry and the industrial workers. Now, the forest policies considered “ordinary citizens”, who were urban dwellers and used the forest for

¹⁹ Prop. 1990/91:90

recreation, concerned about the long-term well being of the Planet. Structural changes in farming had decreased the number of farms from a quarter million in 1960 to less than 80 000 in 2000, and mechanization had substituted the contractor-machine operator for the timber jack-farmer, doing logging during the winter season. The stock and timber yield had increased since the first inventory in the 1920s (see below), and the fears of timber shortage for the industry of the 1970s had turned into a constant surplus over actual fellings. Furthermore, geopolitical changes around 1990 had made large amounts of timber from the Baltic countries and westernmost Russia accessible to the market. The private forest owners continued protest against the regulations in the silvicultural law, and the environmentalist protest against ‘timber production at any cost’ changed the opinions of all political parties. When the 1990 forestry committee, appointed by a Social Democrat government, delivered its report²⁰, the parliament had a non-socialist majority. A major change was advocated by all parties, but the Social Democrats wanted to retain a certain amount of regulation and compulsory management plans, and the Greens wanted more radical regulation in the field of conservation. In 1991, a centre-right government stepped in, more open to the farmers’ wishes and generally critical to (excess) regulation. The resulting compromise²¹, the 1993 Forestry Act, appeared as follows (cf. Appelstrand 2007, p 229 ff.):

1. The opening paragraph (the goal statement) introduced a new, general statement, “the forest is a national resource”. It made the production goal of former legislation more vague, “a sustainably good yield”, and stated a second goal of equal importance “while maintaining biological diversity”. The existing reference to other “public interests” was retained. It appears strange that the legislators chose to word the conservation goal so narrowly, mentioning only biodiversity. One reason may be that conservation had previously been considered from aesthetic points of view, not even legislators are immune to the jargon of the day, and the strong emphasis in Rio on biodiversity. However, the wording of the government’s missive to the Parliament²² made it clear the intention was to include all aspects of environmental conservation, which were to be given as equal importance as the production goal. The consequent revised Forestry Board instructions and counsels went into considerable detail on suitable consideration-conservation

²⁰ SOU 1992:79

²¹ SFS 1993:553

²² Prop. 1992/93: 226. A law proposal in Sweden is always accompanied by an explanatory text, given much importance in Swedish jurisprudence when interpreting the law.

measures in practical silviculture, but as Appelstrand (2007) remarks, after reviewing the literature commenting on the 1993 act, no way of quantifying the environmental goal or actually balancing the two goals in conflicting situations was indicated.

2. The act was characterized by substantial deregulation, but not to the extent of abolishing fundamental obligations for ensuring regeneration and protecting growing forest. Compulsory cleaning and thinning, the obligation to fell mature forest, and to have a complete management plan were all abolished. Specific rules on maximal clearcut percentages, aimed at limiting exploitation after a property sale, replaced former detailed rules. Instead, the owner was given freedom to use management methods other than the cyclic final felling system.

3. The silvicultural fee (tax) was annulled and most subsidies were terminated. The role of the Forestry Boards was partly reformed and the organisation was reduced as both the silvicultural assessment (ÖSI) and the mandatory management plans were abolished. The Government's intention was that owners should freely use forestry expertise in making suitable management plans.

4. On environmental considerations, the Parliament decided, contrary to the committee, to follow the tradition of making goal statements in the law and leaving the concrete regulations to the National Board of Forestry. The only specific matters raised in the law were increased consideration on impediments, wetland forest and valuable broadleaf species, limitations of draining and fertilisation, and a compulsory report on environmental consequences of new silvicultural methods. The consequences of infringement were increased, compared to previous legislation, including a possibility, in extreme cases, of imprisonment.

However, the most important change was not in the wording of the new law, but in the general change of atmosphere. In most industrial countries, a new concept of the use of forestland and forest resources became established. Simultaneously, non-legal regulation of forestry, in the form of certification, raised environmental and social standards of forestry beyond legal requirements, which thus established minimum levels.

3.3 EVALUATION AND FOLLOW-UP OF THE POLICY REFORM

As the reform was expected to influence the entire forestry sector, the National Forestry Board made a preliminary evaluation in 1997, and a major one in 2001 (Skogsstyrelsen 2002). The latter included a treatise on the

history of forest policy with special emphasis on the Forestry Boards (Ekelund & Hamilton 2001). A new commission was given the task of proposing possible changes to the legislation, and presented its final report in 2006²³. The main conclusion was that the fear of the negative effects of deregulation was mostly unfounded and recommended only minor adjustments. After 2006, the government, once more non-socialist, delivered a proposition on forest policy to the parliament, making hardly any changes to the 1993 act, but calling for intensified silvicultural management aimed at increased production. This was to take effect within the present framework, but without subsidies or new coercive rules. The Forestry Boards, which had been reorganised and changed their English name to Swedish Forest Agency, were barred from competing with private firms, marking timber for felling, and operative silvicultural planning, etc. Contrary to current proposals from 1995²⁴, suggestions that the organisation's tasks should be transferred to the County administrations were rejected; instead, the Forest Agency remained as a separate authority as the practical tool for enforcing governmental policies.

During the decade up to 1993, regeneration, and cleaning and thinning improved: the latter two from unsatisfactory levels. There was concern the reform would lower standards. The SUS 2001 evaluation determined that during the first years after the reform, the percentage of successful regeneration had dropped from 81% to 74% since 1996, the final year of pre-reform regenerations. The main reason was in a temporary increase of reliance on natural regeneration without scarification. This trend soon reverted, as landowners realised the need for more active regeneration measures. In addition, increased reliance on natural regeneration was assumed to depend more on the down period in the business cycle after 1990 than on the relaxed rules. The 2006 commission report, based mainly on SUS 2001 and recent general statistics, concluded that, except for the initial drop in regeneration, variations in silvicultural treatments were caused by external factors and not by the change in legislation, and consequently recommended no changes.

The commission report also examined the achievement of environmental goals formulated during the early 1990s, and extended in a parliamentary decision on environmental goals in 1998. The goals provided guidelines for environmentally responsible silvicultural practices, more than the provisions

²³ SOU 2006:81 "Mervärdesskog", Forest for added value.

²⁴ SOU 1995:27

of the forestry law. The issue of conservation against production is discussed by Beland Lindahl (2008, pp. 42 ff.).

In 1998, minor changes were introduced into the 1993 legislation. Every forest owner was now obliged to have a formal description of forestry and environmental goals²⁵, a simple substitute for the previous mandatory management plans. The National Forestry Board was authorised²⁶ to issue prescriptions for permissible regeneration methods. Finally, the 1993 rules limiting the portion of a property to be clear-cut were refined, as a relative low number of blatantly non-sustainable property takeovers, exploitations and subsequent sales to insolvent owners, incapable of meeting regeneration costs, were brought to justice.

²⁵ SFS 1998:1538

²⁶ SFS 1998: 1540

4 Beyond mere legislation: the task of introducing a silvicultural philosophy – and changing it

Since the first Forestry Act in 1903, a policy of motivation and education rather than of coercion was employed to ensure private forest owners complied with the goals of legislation, with the regional Forestry Boards as key agents. Ekelund & Hamilton (2001) provide detailed statistics on the various activities and measures taken by the forestry boards. In terms of law enforcement, few cases were ever brought to court: up to 1948, the number for the entire country was 30 to 40 per year, after which, no statistics are provided, assumingly as legal actions were rare. The number of felling prohibitions varied with the business cycles, but ranged from about 150 per year to a peak of 450 in 1948, stabilising at less than 50 after 1960. Between 1980 and 1990, less than ten felling prohibitions were communicated annually: the total number of cases of (formal) legal prescriptions numbered less than 500 a year. All figures here and below should be related to the number of private (mostly peasant) holdings, being about 250 000, comprising around 10 million hectares.

The key message of the 1903 and subsequent Acts was that felling must be followed by regeneration. The Forestry Boards were to give individual advice, and when called for, make written agreements with the landowners on how to fulfil the regulations. During the first twelve years of board work, 1200 consultations resulting in agreed regeneration measures were made per year: during the next 24 years, the number almost doubled. For the period 1948 to 1978, the number of agreements varied widely, from over 20 000 in 1948 and slightly less in 1974 and 1975, to only a few thousand around 1960, the latter period being one of very low timber prices and economic problems for the entire sector. For the period 1980 to 1990, an annual mean of 13 000 regeneration agreements after formal consultation are recorded, 2000 agreements regarding restocking of unproductive stands, and 1000 regarding nature conservation.

From 1975, advance notification of intended fellings over half a hectare became compulsory. Ekelund and Hamilton (2001) provide data on action taken by the forestry boards in 1976, just one year after the passing of the law.

Notifications of 35 000 fellings of 208 000 ha, 7 700 notifications resulted in contact with the owner for counselling. Whereof, 1490 cases resulted in formal restrictions, out of these:

- 136 cases were motivated by nature conservation
- 253 cases were motivated by the low age of the forest
- 297 cases were motivated by concerns for regeneration
- 199 cases concerned protection of forest

The low frequency of formal action by the boards is a result of the continuous contact between silvicultural advisers and forest owners, during formal educational arrangements and personal contacts. A mean of 113 000 forest owners per year had some kind of contact with a board adviser. It is assumed that knowing about the requirements of the law, most owners contacted an adviser before submitting the notification. When management plans became compulsory in 1979, potential problems were dealt with during the planning work. Forest owners were eager to have management plans and in 1978, nearly 50% of the private forest had plans made by board staff. Therefore, when plans were made compulsory in 1979, they were already widely accepted management tools among private forest owners.

Public statistics quoted by Appelstrand (2007, p.237) provide a picture of the intervention of the boards during a ten-year period before 1993. Per year, 27 000 “advices and instructions” were formally communicated by the boards, but only 460 cases of coercive action and prohibitions. Conservation issues represented only a minor part of the “advice”, (about 2000 annually in the late 1980s), despite the prominent role these issues occupied in the public debate on forestry.

While felling and initial regeneration measures were closely monitored, the regeneration outcome can only be assessed in retrospective. The total area of sowing or planting increased from about 100 000 ha per year in the early 1950s to nearly 200 000 ha after 1980, showing no correlation with the varying number of regeneration agreements mentioned above. The annual clear-felling area varied between 200 00 and 300 000 ha for the entire post-war period; about one-third of which was left to natural regeneration. In the 1980s, the actively regenerated (planting, sowing) area was almost equal to that of clear-fellings. The national forest inventory has been recording regeneration success since 1975. From a low 40% fulfilling legal requirements, the success rate rose to 90% in 1992. The monitoring of silviculture was strengthened by a forceful tool in 1979, when the ÖSI, a total assessment of the silvicultural status of forest, was initiated. When it was abolished in 1993, about 90% of private land was covered. Based on ÖSI data, the Forestry Boards were able to locate stands where silvicultural work was required, and could notify the owners even where no direct legal infringement had (yet) taken place.

The incentive packages offered to the private forest owners comprised not only counselling and education, but also subsidies for active regeneration measures (soil preparation, sowing and planting), for road building and for draining (Table 2). Additionally, unemployed forest workers were paid by State funds to undertake extensive silvicultural work, particularly pre-commercial thinning, as a result, 30 000-70 000 ha per year were thinned. The fee levied on income for timber sales was successively raised over the years, partly financing the growing number of advisers, partly financing the subsidies, which were thus ultimately paid by the forest owners themselves. Over the period 1980 to 1991, when the whole system was abolished, annual subsidies totalled about 300 million SEK. Annual means of 100 000 ha of active regeneration and 1200 km of forest roads were partly financed from these funds. Subsidies were paid to both corporate and private owners, as both categories paid the same silvicultural fees; however, Ekelund and Hamilton (2001) conclude that private owners were clearly favoured.

A final evaluation of the forest policy of the 20th century can be based on the development of the standing and felled timber volumes. The standing volume was 1800 million m³ in 1923/7, at the time of the first national inventory, and 3000 million m³ in 2000. The total fellings were 50 million m³ in 1927, 75 million in 2000, and around 90 in 2008: the total (including reserves and protected areas) stem growth exceeded fellings by 30 million. From that point of view, the forest policy has been a success.

Appelstrand (2007, p 217 ff) discusses the new policies and their consequences for the Forestry Boards. The centre-right government in power after 1991 wanted to strengthen the regulatory function of the boards and reduce their advisory function, partly to avoid criticism that the public authority was competing with private firms, providing services such as management plans, and marking for felling. In addition, providing advice to individual landowners was the most cost intensive part of the boards' work. In 1992, 59% of private forest owners had regular contact with an advisor, and the most prominent group was elderly, long-time owners who were not members of a Forest Owners' Association. Individual Board advice, other than concerning the legality of proposed silvicultural measures, was increasingly reduced. Consequently, in 2000, the number of individual owner contacts had dropped to 36%. Conversely, the advisory work of the Associations increased, but there are no comparable data at hand. Board campaigns directed to local forest owner communities had proved successful, with 90 000 participants in a competence-building campaign "Richer forest" in 1990-92. The recent conservation oriented campaign "Greener forest" engaged 130 000 owners, corresponding to half of all

holdings. ÖSI assessment was also discontinued after 1993, because the cost-benefit ratio was considered unsatisfactory, but by then, some 90% of the private forest areas had been covered, and the data were useful for addressing “problem spots” among private holdings.

The 1993 reform marked a period of reshaping of the organisation and work of the Forestry Board system, which will be discussed in a future report on Swedish forest policy after 1993.

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